

# South Dakota Drought Update

## 28 May 2013

Dr. Dennis Todey

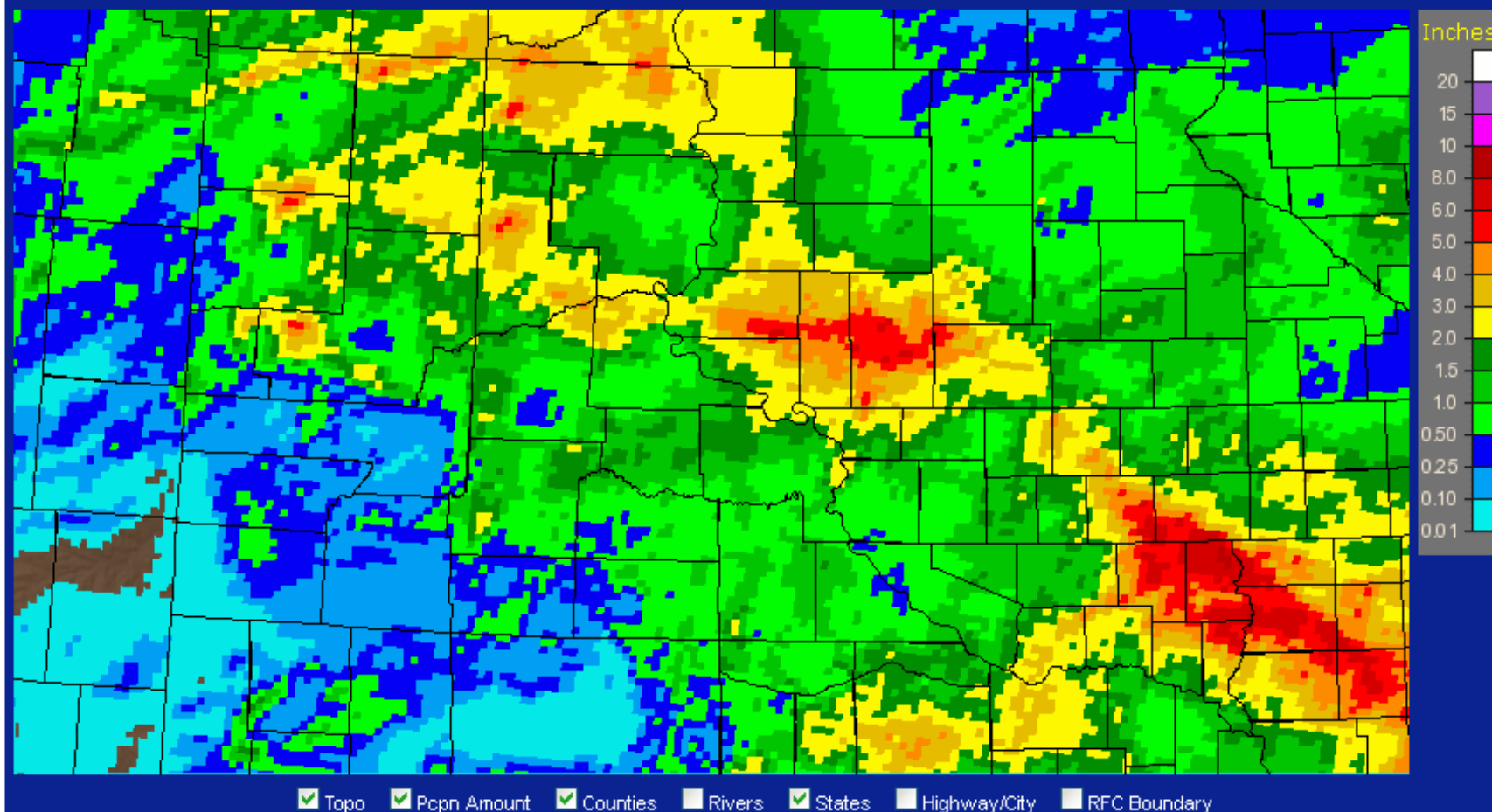
South Dakota State Climatologist

SDSU Extension/AES/ABE



# South Dakota: Current 7-Day Observed Precipitation

Valid at 5/28/2013 1200 UTC - Created 5/28/13 14:34 UTC



## 1. Timeframe

## » 2. Product

## » 3. Location

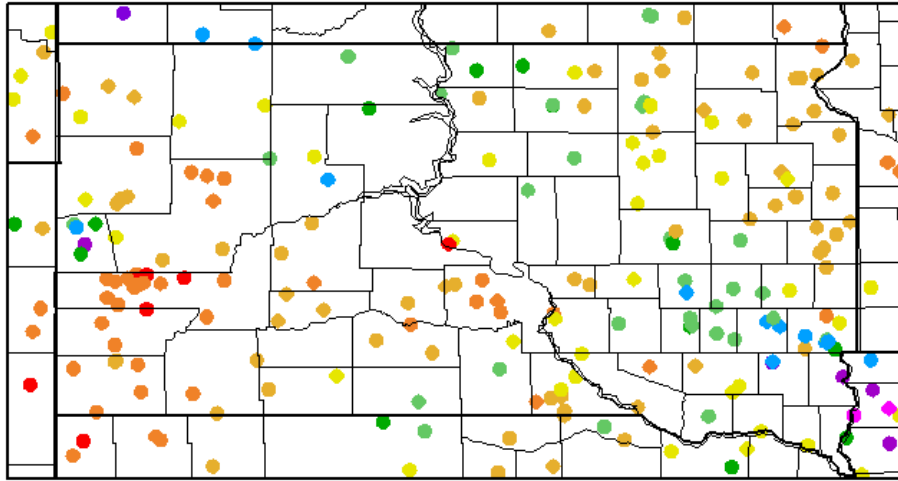
## » 4. Units

Current Date

State

English

Precipitation (in)  
4/28/2013 – 5/27/2013



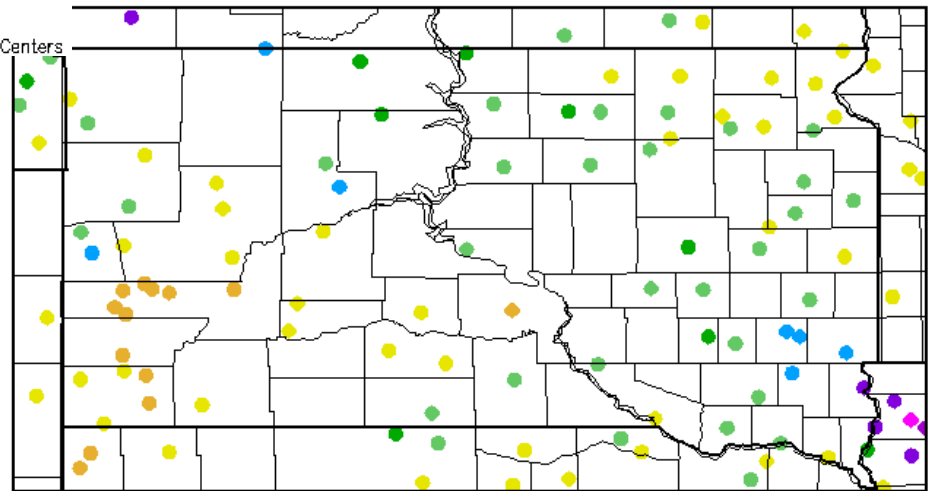
Generated 5/28/2013 at HPRCC using provisional data.

Regional Climate Centers

Good precipitation last 30 days –  
some areas still below average



Departure from Normal Precipitation (in)  
4/28/2013 – 5/27/2013

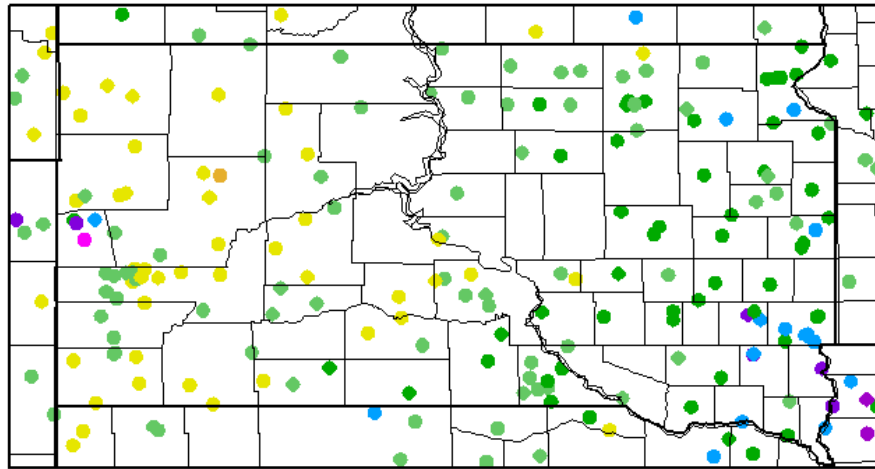


Generated 5/28/2013 at HPRCC using provisional data.

Regional Climate Centers

<http://www.hprcc.unl.edu/maps/current/>

# Precipitation (in) 10/1/2012 – 5/27/2013



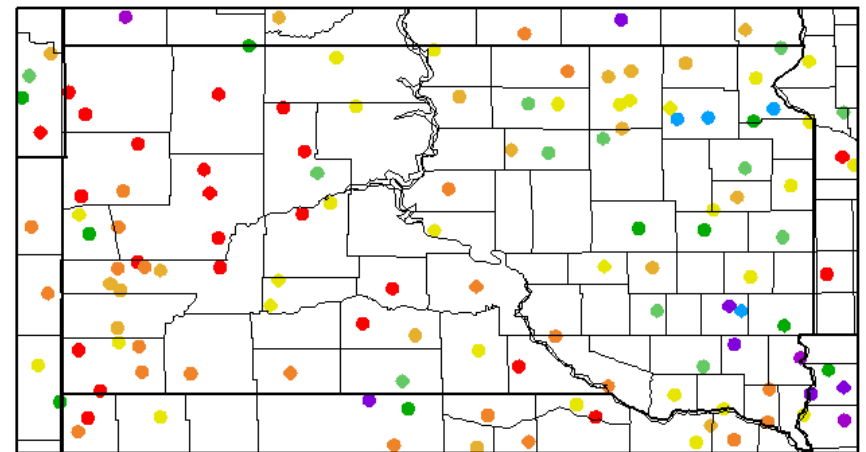
Generated 5/28/2013 at HPRCC using provisional data.

Regional Climate Center

Large deficits since last fall



## Percent of Normal Precipitation (%) 10/1/2012 – 5/27/2013

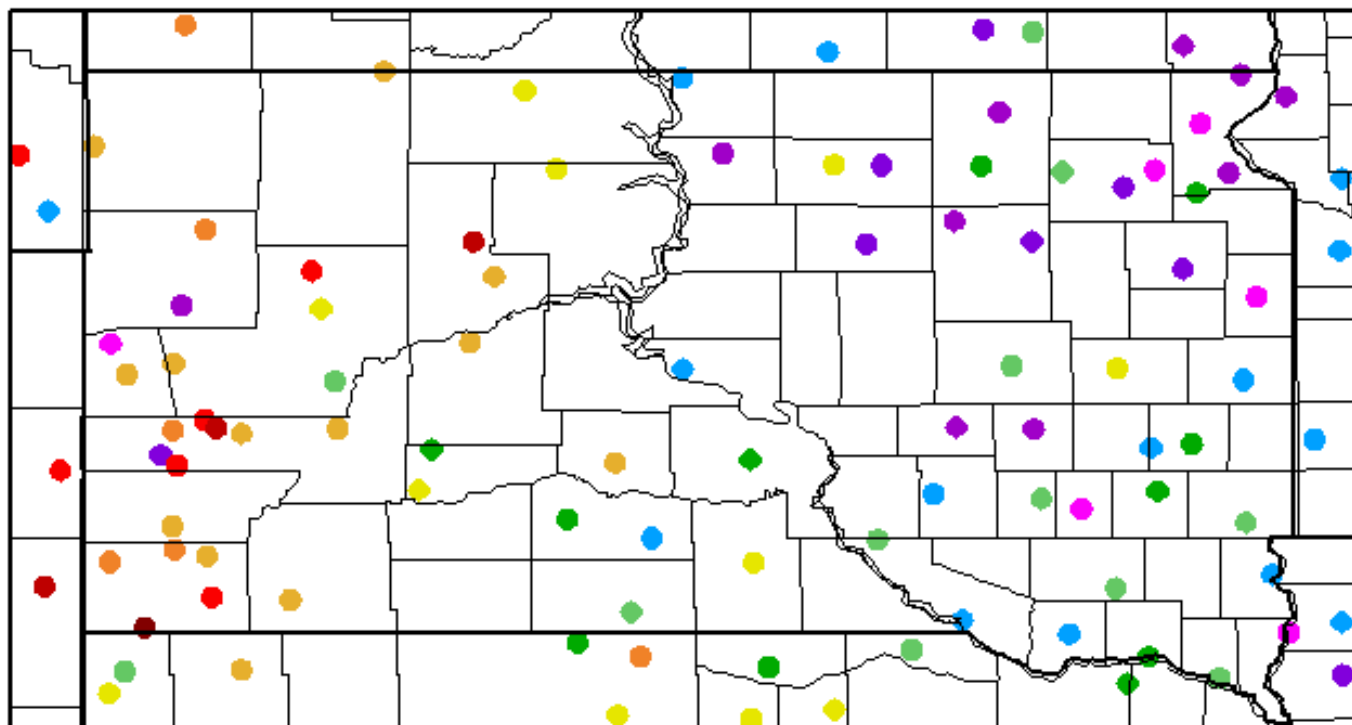


Generated 5/28/2013 at HPRCC using provisional data.

Regional Climate Centers

<http://www.hprcc.unl.edu/maps/current/>

# Departure from Normal Temperature (F) 4/28/2013 – 5/27/2013



Generated 5/28/2013 at HPRCC using provisional data.

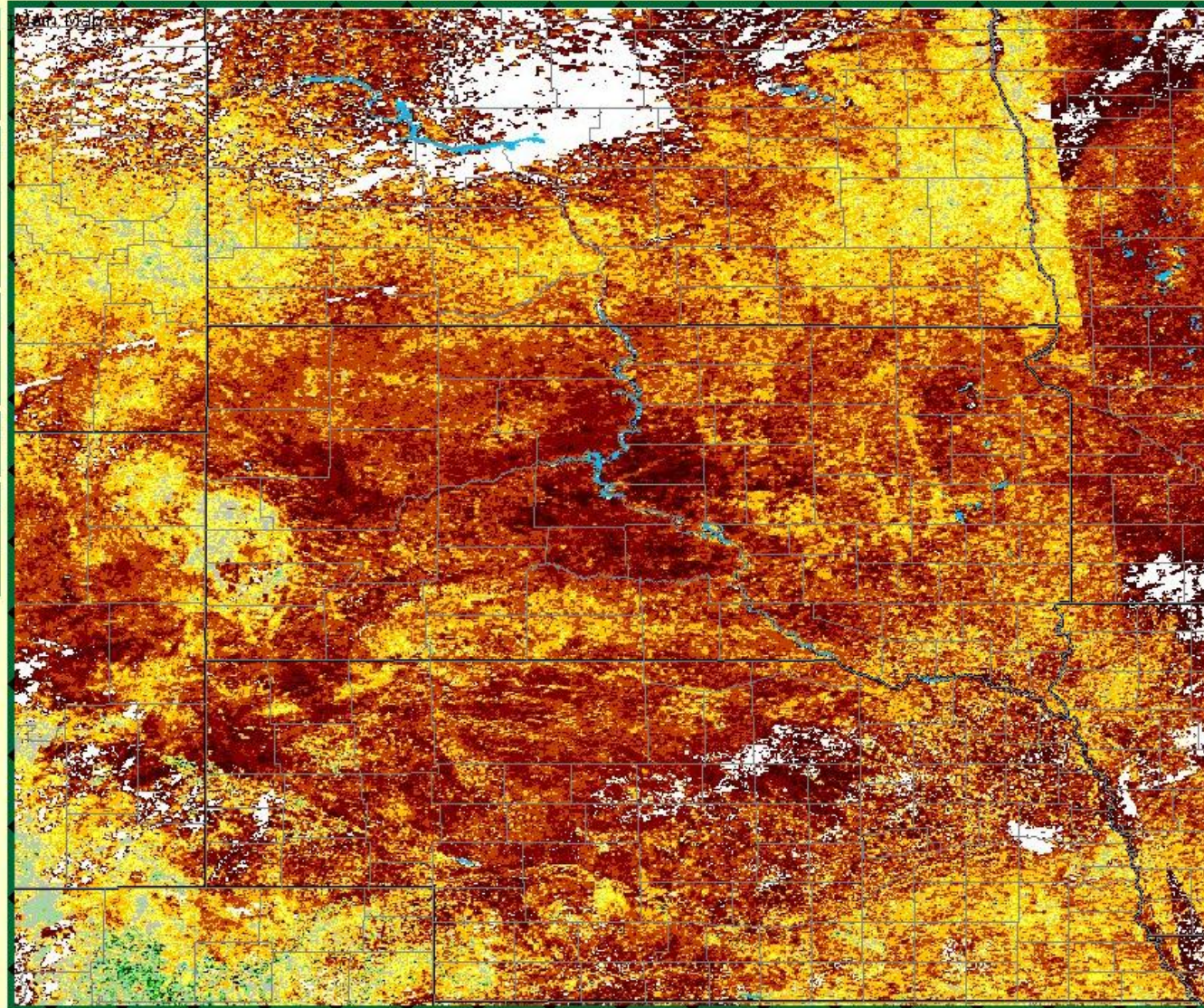
Regional Climate Centers



Overall very cold



# ted Vegetation Mapping Viewer - Interactive Data Viewer



## Fire Potential Index (FPI)

### Large Fire Forecasts

### NDVI/Greenness

☒ Departure From Average Weekly Greenness - 05/20/2013

- ☐ < 55%
- ☐ 55 - 64%
- ☐ 65 - 74%
- ☐ 75 - 84%
- ☐ 86 - 94%
- ☐ 95 - 105%
- ☐ 106 - 115%
- ☐ 116 - 125%
- ☐ 126 - 135%
- ☐ 136 - 150%
- ☐ > 150%

☐ Clouds, Snow

☐ Water

### NDVI Greenness (Biweekly)

- ☐ .05 - .10
- ☐ .11 - .15
- ☐ .16 - .25
- ☐ .26 - .33
- ☐ .34 - .42
- ☐ .43 - .50
- ☐ .51 - .58
- ☐ .59 - .66
- ☐ .67 - .74
- ☐ .75 - .95

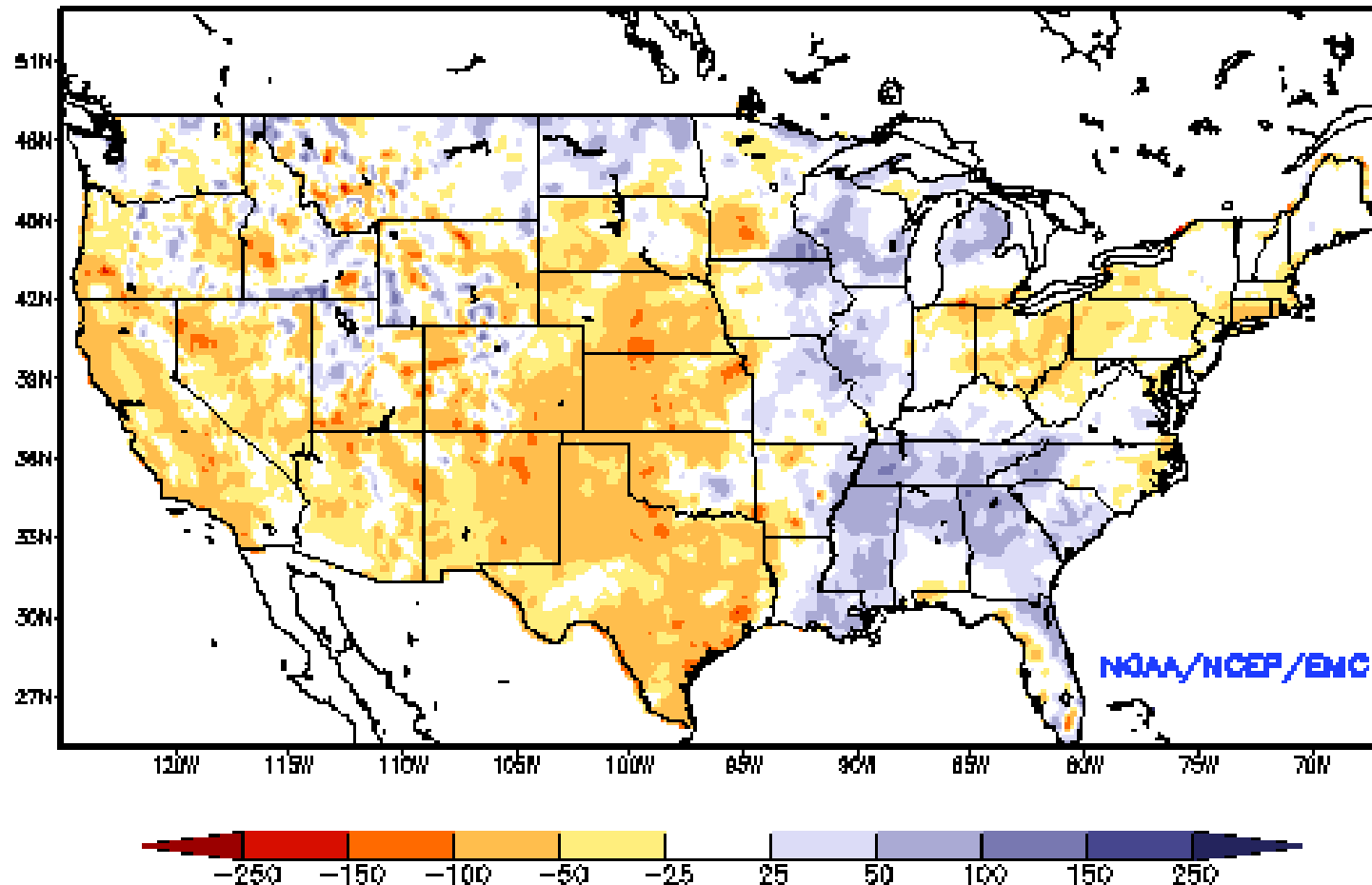
☐ Water

☐ Clouds/Bright Surface

### NDVI Greenness (Weekly)

- ☐ .05 - .10

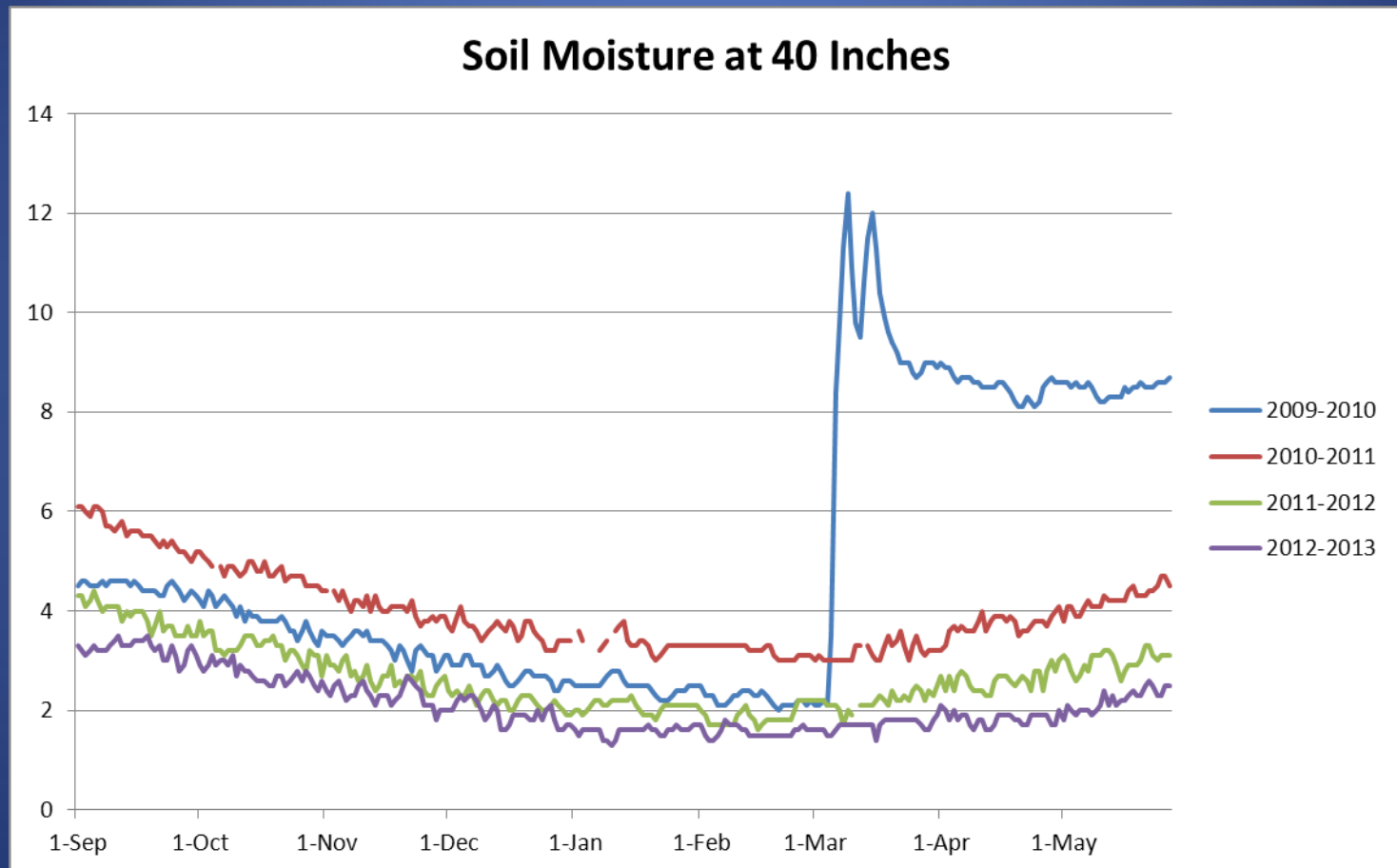
Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)  
NCEP NLDAS Products \_\_\_ Valid: MAY 23, 2013



Comments from extension people saying near-surface is pretty good. Deeper profile moisture largely lacking.



# Cottonwood 40" Soil Moisture

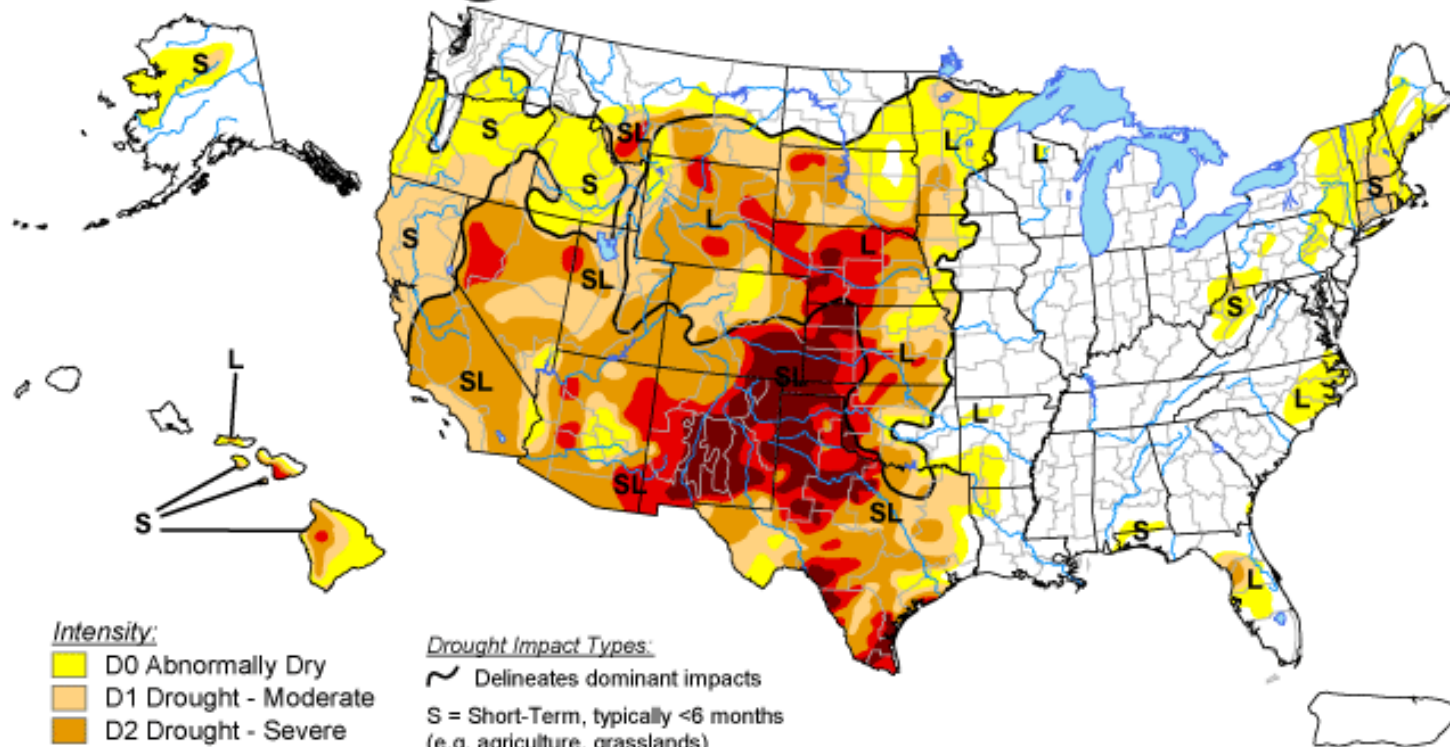




# U.S. Drought Monitor

May 21, 2013

Valid 7 a.m. EDT



## Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

## Drought Impact Types:

- Delineates dominant impacts
- S** = Short-Term, typically <6 months  
(e.g. agriculture, grasslands)
- L** = Long-Term, typically >6 months  
(e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions.  
Local conditions may vary. See accompanying text summary  
for forecast statements.

<http://droughtmonitor.unl.edu/>



Released Thursday, May 23, 2013

Author: Brad Rippey, U.S. Department of Agriculture



# U.S. Drought Monitor

April 2, 2013  
Valid 7 a.m. EST

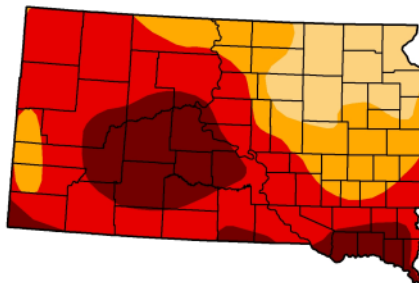
## South Dakota

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	86.29	66.49	20.86
Last Week (03/26/2013 map)	0.00	100.00	100.00	86.29	65.78	20.86
3 Months Ago (01/01/2013 map)	0.00	100.00	100.00	96.95	63.17	30.68
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	96.95	63.17	30.68
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	74.69	50.53	6.72
One Year Ago (03/27/2012 map)	23.87	76.13	29.44	1.96	0.00	0.00

### Intensity:

■ D0 Abnormally Dry     ■ D3 Drought - Extreme  
■ D1 Drought - Moderate     ■ D4 Drought - Exceptional  
■ D2 Drought - Severe



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released 7  
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<http://droughtmonitor.unl.edu>

# U.S. Drought Monitor

April 23, 2013  
Valid 7 a.m. EST

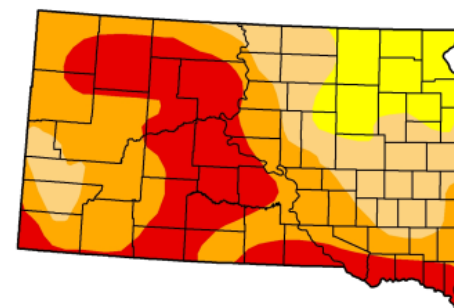
## South Dakota

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	87.74	66.01	29.03	0.00
Last Week (04/16/2013 map)	0.00	100.00	87.71	69.08	32.92	0.00
3 Months Ago (01/22/2013 map)	0.00	100.00	100.00	96.93	62.99	30.68
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	96.95	63.17	30.68
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	74.69	50.53	6.72
One Year Ago (04/17/2012 map)	32.56	67.44	27.22	0.00	0.00	0.00

### Intensity:

■ D0 Abnormally Dry     ■ D3 Drought - Extreme  
■ D1 Drought - Moderate     ■ D4 Drought - Exceptional  
■ D2 Drought - Severe



# U.S. Drought Monitor

May 21, 2013  
Valid 7 a.m. EST

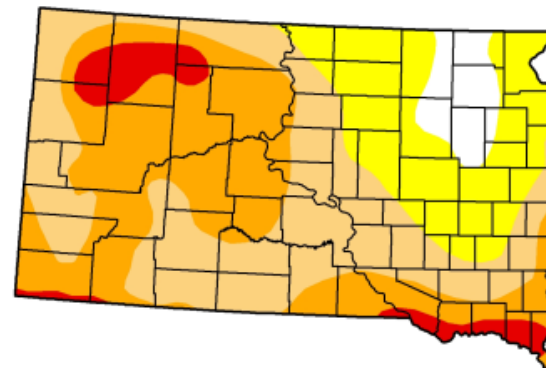
## South Dakota

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	5.38	94.62	73.90	39.00	5.86	0.00
Last Week (05/14/2013 map)	0.00	100.00	82.39	65.25	21.13	0.00
3 Months Ago (02/19/2013 map)	0.00	100.00	100.00	86.77	63.23	29.58
Start of Calendar Year (01/01/2013 map)	0.00	100.00	100.00	96.95	63.17	30.68
Start of Water Year (09/25/2012 map)	0.00	100.00	100.00	74.69	50.53	6.72
One Year Ago (05/15/2012 map)	75.13	24.87	2.16	0.00	0.00	0.00

### Intensity:

■ D0 Abnormally Dry     ■ D3 Drought - Extreme  
■ D1 Drought - Moderate     ■ D4 Drought - Exceptional  
■ D2 Drought - Severe



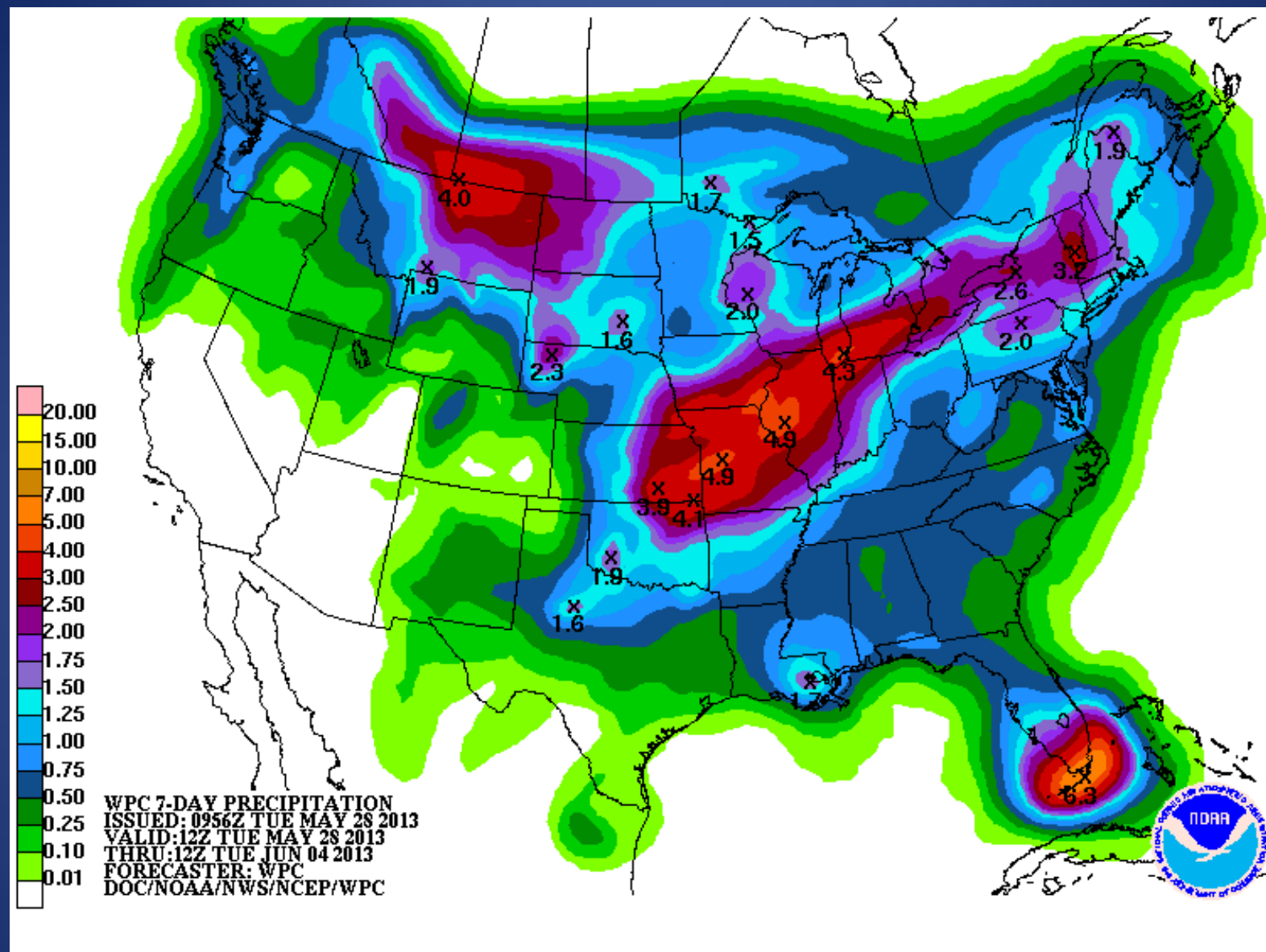
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<http://droughtmonitor.unl.edu>

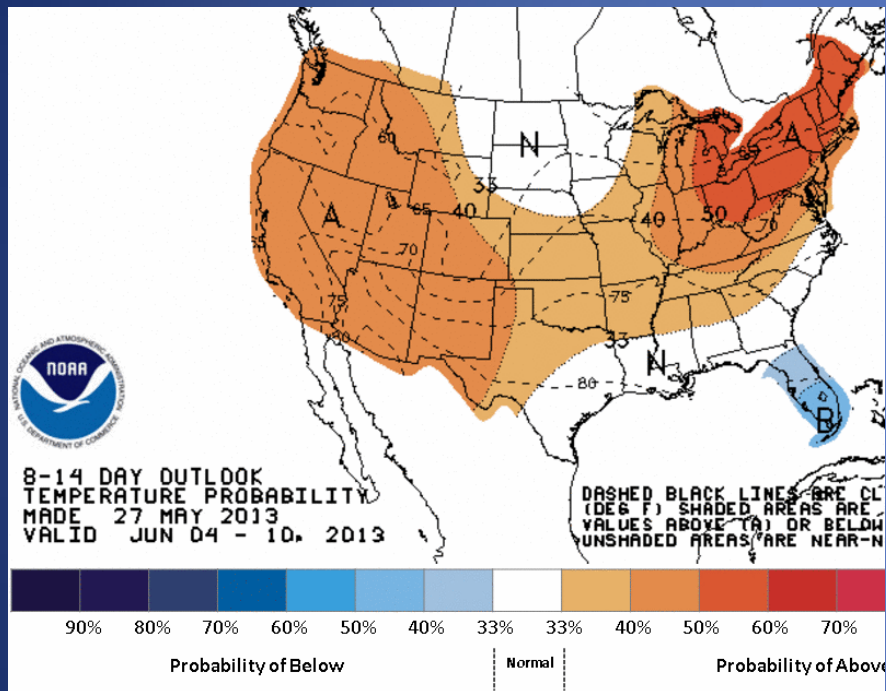


Released Thursday, May 23, 2013  
Brad Rippey, U.S. Department of Agriculture

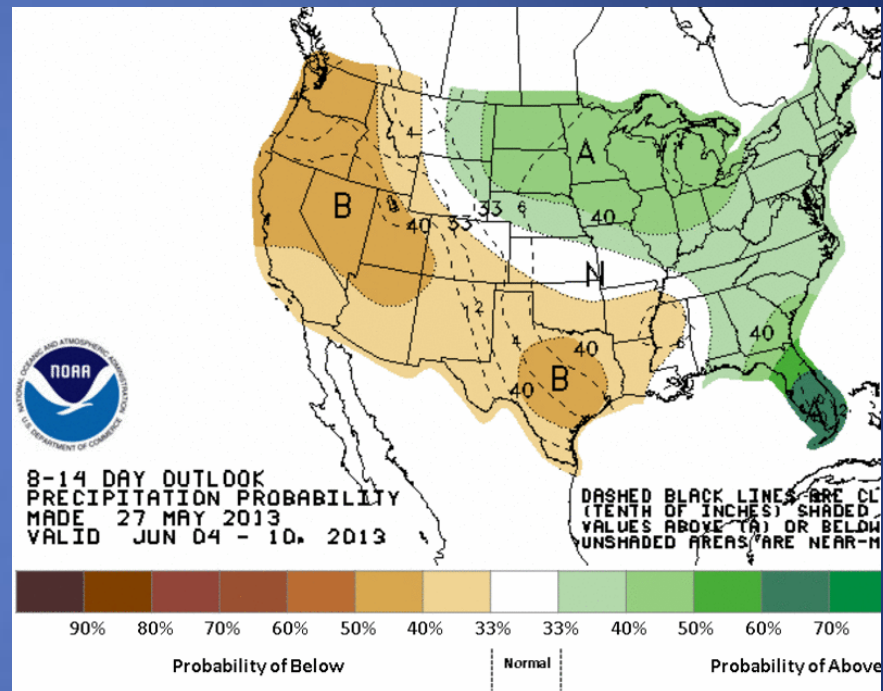




# 8-14 Day Outlook



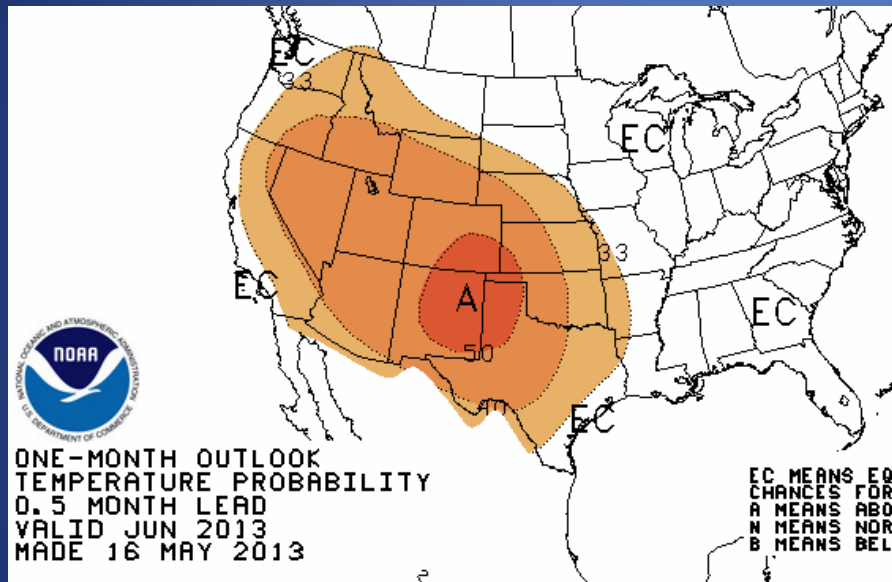
Temperature



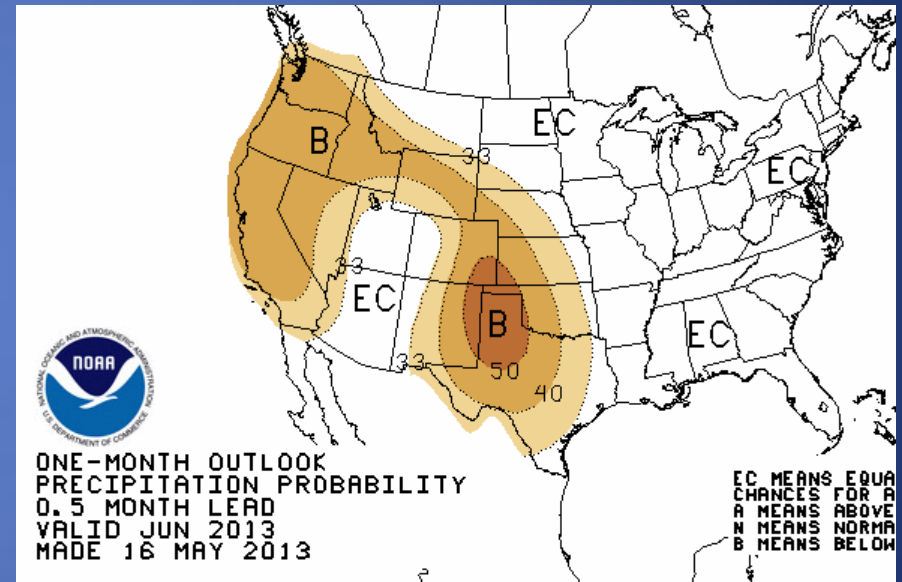
Precipitation



# June Temperature and Precipitation Probabilities



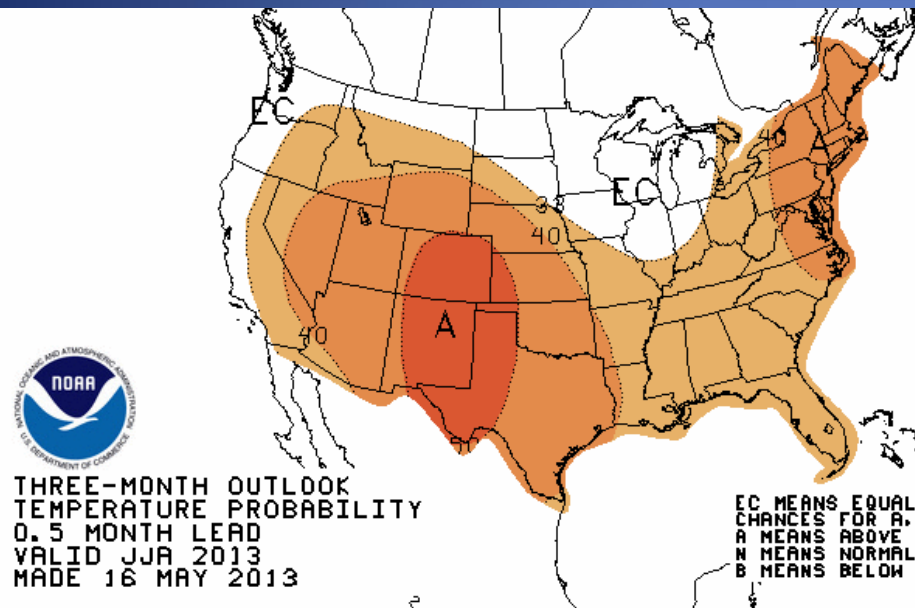
Temperature



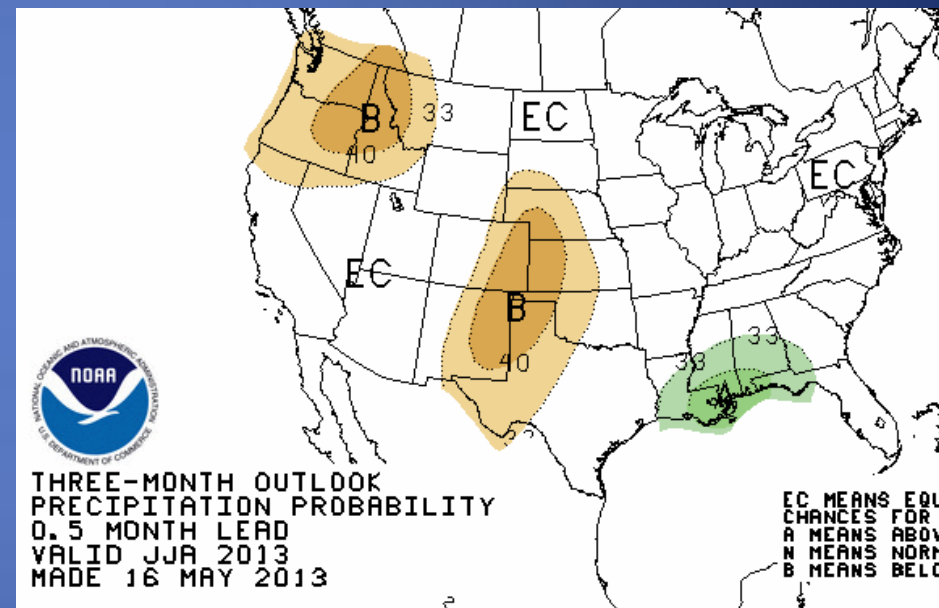
Precipitation



# 3 Month Temperature and Precipitation Probabilities (June - August)



Temperature



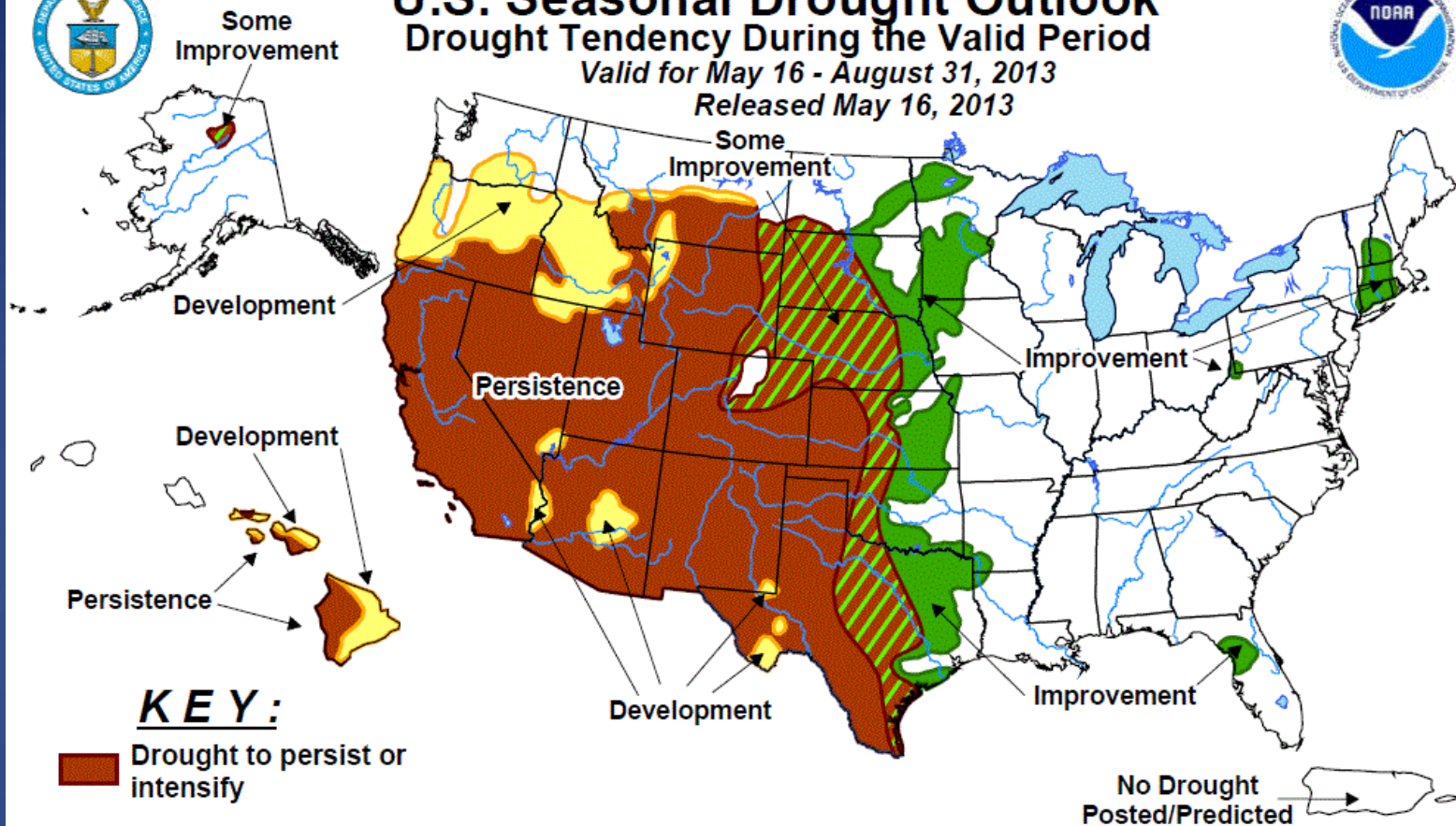
Precipitation



# U.S. Seasonal Drought Outlook

## Drought Tendency During the Valid Period

Valid for May 16 - August 31, 2013  
Released May 16, 2013



### KEY:

-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

# Issues

- Fire – less significant for a while
- Flood – southeast flash flooding – more possible with additional rain
- Precipitation – Continued wet (not quite as heavy rain)
- Temperature – nearer average
- Outlook – still needing improvement west river